

AMS Board Errata Spring 2018

1. There are currently 21 functional AMS boards and an AMS test board with breakout connections. Having extra boards would be important in case anything happens to the current ones. There are enough components to be able to create 10 more boards, the PCB's just need to be ordered for them (AMS gerber files)
2. Be prepared to have to reprogram/calibrate boards that are listed as functional using the AMSVU.
3. If the AMSVU says "no ams board found" sometimes you just need to plug the board in/out a few times and it will work.
4. This year we introduced two new boards into the AMS system to ensure we would pass EV10.4. The first is an altered AMS board, the schematic (figure 1) shows where breakout points were added onto the board in order to attach the second board created for the tests necessary.

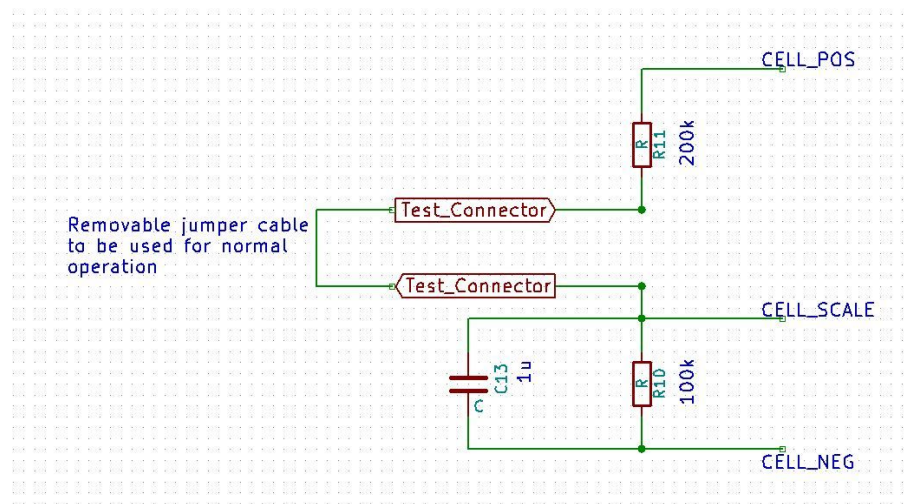


Figure 1. Test connectors added to AMS board

The second board was created to mimic the board used by judges in competition. The schematic for this is pictured in Figure 2. This was created on a small board, with 2 test connectors, a .5 amp fuse and a 5 ohm 10W resistor, it gets power from 2 pins which can then be connected to a bench power supply. To run the tests using both boards, the test connectors on the testing board are connected to the test connectors on the altered AMS board (while it is plugged into the pack, in series with the other AMS boards), the pins on the test board are then hooked up to a 5V power supply, which is then altered between +-2V to ensure when the voltage fluctuates in the system the AMS boards still act normally.

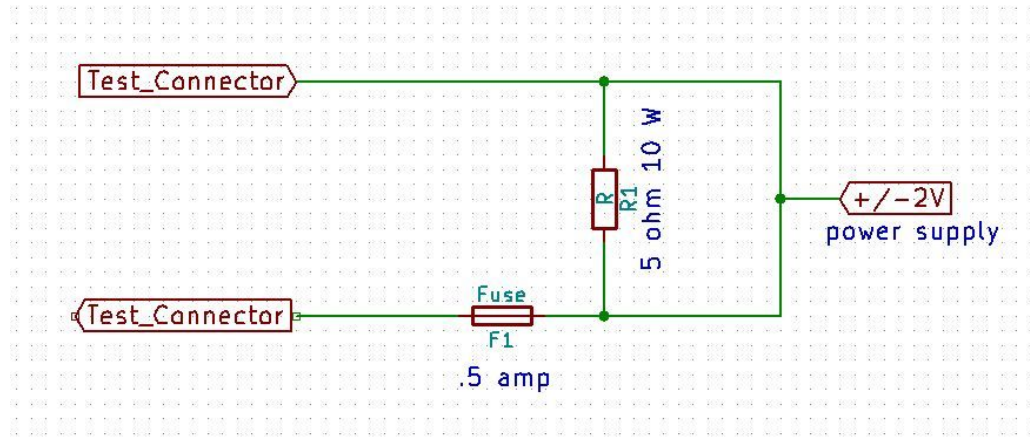


Figure 2. Board created to test the AMS